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AUTHOR Ferguson, Richard L.; Maxey, E. James
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ABSTRACT

Longitudinal data on the academic performance of high school and college students who completed the ACT Assessment Program beginning in 1964-5 are reported. Specifically, trends in students' high school averages, their test scores on the ACT, and their first semester college grade point averages are examined. Over an eight year period, grades awarded by high school and college faculty have shown a significant increase while at the same time ACT test scores have been on the decline. The results are consistent across all types of institutions, and for various subgroups of students. (Author)

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Trends in the Academic Performance of High School and College Students

Richard L. Ferguson and E. James Maxey

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The American College Testing Program
P. O. Box 168
Iowa City, Iowa 52240

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Abstract

Longitudinal data on the academic performance of high school and college students who completed the ACT Assessment Program beginning in 1964-65 are reported. Specifically, trends in students' high school averages, their test scores on the ACT, and their first semester college grade point averages are examined. Over an eight year period, grades awarded by high school and college faculty have shown a significant increase while at the same time ACT test scores have been on the decline. The results are consistent across all types of institutions, and for various subgroups of students.

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Introduction

The one certainty of life, and therefore of education, is change. Moreover, in both cases, knowledge of the patterns and trends which describe that change is crucial to rational planning. In recent years, that knowledge has become especially important to educators due to increased emphasis on the quality of the outcomes of formal education.

The focus of this paper is on one small but significant segment of educational change--trends in the academic performance of high school and college students. Specifically, data are reported which reflect trends in students' high school averages, their test scores on the ACT Assessment Program, and their first semester college grade point average. The source of the data used to identify these trends is discussed first and then each is discussed separately. Finally, some implications of the findings for educational planning are considered.

The Data

The trends reported in subsequent sections of this paper are based on information retrieved from ACT history files of student and institutional data. Those files contain information on all of the students who have participated in the ACT Assessment Program since its inception in 1959. They include summary data on the national population of students who have written the ACT over the past decade as well as group data by college on students who have applied to and enrolled in specific institutions.

The trends cited in this study are based on two types of data: 1) information reflecting the entire national sample of the ACT student population and/or the entire national sample of ACT using institutions and 2) information based on students attending eight institutions identified especially for this study. The latter eight colleges were selected to represent a cross section of the types of institutions (2-year, 4-year, etc.) which have used the ACT Program over a period of time sufficient for detecting trends. These colleges, all of which are located in the Midwest, have used the ACT Assessment Program each year since 1965.

Because data from both a national sample of institutions and the eight college sample are used, there is occasional duplication in some of the data reported. This dupcliation is useful, however, since it serves to confirm the representativeness of the eight college sample. Data from the eight colleges are also used to provide insights into trends in the academic performance of selected subgroups of students for which national data cannot easily be obtained (e.g., trends in performance as a function of racial/ethnic background, type of college attended, etc.). Collectively, the two types of data present a clear portrait of the trends which are the focus of this study.

Trends in High School Average

In this section trends in high school grades are examined for students enrolled in a sample of eight colleges. Table 1 contains the High School Averages (HSAs) for students enrolled in the eight colleges. Data are reported which have been collected each year since 1965. The HSAs are based on four self-reported high school grades recorded by students when they wrote the ACT Assessment. The four grades reported are the latest semester grades in four subjects earned by the students prior to the senior year of high school. The grades are reported for a course taken in each of four curriculum areas:

English, mathematics, social studies, and natural science. The HSA is the arithmetic average of the four grades. At the bottom of Table 1, the national average HSA based on colleges that have participated in the Standard Research Service[1] are reported. These national averages were taken from the Summary Tables for the ACT Research Services and are available upon request.

The data in Table 1 are organized according to the types of institutions included among the eight colleges in the sample.[2] One interesting trend that is apparent from the data is that students with good high school grades generally attend institutions which offer advanced degrees more frequently than do students with lower grades. Our national averages indicate, for example, that students who attend Type I colleges are likely to have HSAs that are about .4 less than the HSA of students who attend a Type IV college. Data reported in Table 1 for the eight colleges are consistent with that finding.

It is also interesting to note the trend in HSA for the eight colleges. The data in Table 1 indicate that HSA increased by at least .1 for each college

[1] The Standard Research Service is one of two predictive research services provided by ACT to participating colleges. Colleges provide first semester or first year grades to ACT from which averages and regression equations are developed.

[2] The four types of institutions as defined by the United States Office of Education are:

Type I - Two-year but less than four-year degrees, includes junior colleges, technical institutes, and normal schools.

Type II - Only bachelor's degree and/or first professional degree (BA, BS, and MD, DDS, etc.).

Type III - Master's and/or second professional degree (MA, MEd, MBA, etc.).

Type IV - Doctor of Philosophy or equivalent degree.

in the space of three years from 1966-67 to 1969-70. This suggests that the students who took the ACT Assessment and then enrolled in these colleges came from high schools whose grading practices reflected a trend toward higher grades.

Table 2 provides similar data on high school average for each of the four content areas. Based on those data, it seems clear that trends toward higher grades were not confined to any specific discipline. To the contrary, increases in grades occurred across all four content areas.

The data in Tables 1 and 2 also show that this trend toward higher HSA was completely independent of the type of institution attended. This pattern toward higher grades continued from 1969-70 to 1972-73. In most cases, the average HSA increased by at least .1 for the three-year period. Although the data are not shown in Table 1, the HSA of students enrolled in most of these colleges increased by approximately .5 from 1972-73 to 1974-75.

The HSA ACT norms recorded at the bottom of Table 1 indicate that this shift in HSA has also occurred for a national sample of students enrolled in several hundred colleges over the past several years. The average HSA rose .06 from 1966-67 to 1969-70 and another .14 from 1969-70 to 1972-73.

A similar trend exists for students who wrote the ACT Assessment but <u>did not</u> enroll at one of the eight colleges. For that group, HSA has tended to increase about .1 for each three-year interval. In addition, nonenrolled students who applied to Type I colleges tended to have higher HSAs than enrolled students. It is likely that many of the more able students who apply to Type I colleges eventually enroll at colleges where advanced degree programs are available. Conversely, nonenrolled students at Type IV colleges have lower HSAs than enrolled students. This may be due to the more rigid admissions standards at these types of institutions.

We also looked at HSAs for black students as a special subgroup. To do this, we used files containing 10% samples of all black students who took the ACT tests in the years 1970-71 and 1972-73. These same students enrolled in colleges during 1971-72 (N = 1595) and 1973-74 (N = 2526), respectively, HSAs for each of the four curriculum areas and the composite increased by .1 over the three-year period. These results are consistent with the national ACT norms reported at the bottom on Table 1, which show an increase of .2 in the composite HSA over a six-year span of time. It is also interesting to note that the standard deviations for both the black samples and the national ACT norms remained relatively stable over their respective periods of time.

Trends in ACT Test Scores

In this section, trends in ACT test scores over the past ten years are discussed. ACT maintains test score data both on college-bound students (those who take the ACT Assessment) and on enrolled students (those who take the ACT Assessment and also enroll in college). Since the two groups are quite different in their makeup, one being a subset of the other, trends for both groups are considered separately.

Trend data for the two groups are examined according to several criteria including: (1) type or level of institution; (2) sex; and (3) racial/ethnic background.

Trends in the ACT Test Scores of College-Bound Students

Each year, nearly one million students complete the ACT Assessment Program on one of five national test dates. Because the resulting test scores are stored on magnetic tape, a substantial data base exists for studying trends in the ACT test scores of college-bound students. Table 3, which was derived from

that data base, reports the means and standard deviations for students who took the ACT tests in each of the last ten years. The table includes statistics for each of the ACT subtests and for the composite score.

Mean ACT composite scores have declined by approximately one standard score, or about 1/5 of a standard deviation over the past decade. Results are also provided individually for each of the ACT subtests. English scores have declined by about 1 standard score, mathematics scores have declined by about 1½ standard scores, social studies scores have declined by about 2½ standard scores, and natural science scores have remained essentially constant. Because of the large number of students tested each year, the observed trends are clearly not due to random fluctuations in test scores but rather actual changes.

The decline in score on college admissions tests is not unique to the ACT Assessment Program. The College Entrance Examination Board has observed the same phenomenon for students taking the Scholastic Aptitude Test (SAT) (Maeroff, 1973).

Because both the ACT and the SAT are used by colleges for assisting in admissions and placement decisions, the observed decline in test scores has been accompanied by a variety of possible explanations for the decline. Among the hypothesized explanations, one seems especially appealing. That explanation attributes the decreases in scores to changes in the pool of college-bound students. In particular, it suggests that more students in the lower division of their high school class are attending college than was true ten years ago (Cross, 1971). Some evidence in support of that hypothesis is found by observing the trend in the standard deviations of test scores of college-bound students reported in Table 3. During the same period of time that test scores were declining, the corresponding standard deviations were on the increase, thus suggesting a growth in the diversity of academic ability of students seeking

admission to college. Although other factors no doubt enter into the declining test score phenomenon, it seems safe to argue that increased student diversity is a partial reason for that decline.

Given the trends toward declining test scores just discussed, it seems appropriate to determine whether those trends can also be observed for (1) different subgroups of students and (2) the various types of institutions that use the ACT program. Data relevant to answering those questions have been collected and the results are discussed next.

Trends in ACT Scores as a Function of Sex

Table 4 reports means and standard deviations for the females and males who completed the ACT tests in the ten-year period from 1964-65 through 1973-74. As with Table 3, the data used to assemble Table 4 includes all males and females tested by ACT each year. Thus, most of the means are based on samples of several hundred thousand females and a like number of males.

For both the female and male groups, the mean ACT composite scores exhibited the same downward trend as was observed in Table 3 for the combined groups. Over the ten-year period, a decline in the composite score of approximately 1 standard score was observed for the males and a decline of approximately 1½ standard scores was observed for the females. The declines in mean scores on both the English Usage Test and the Social Studies Reading Test were substantially larger for females than males, whereas the opposite was true for the Mathematics Usage Test. As for the Natural Sciences Reading Test, mean test scores for the male group rose by about 1 standard score while remaining constant for the females.

Based on these data, it appears safe to postulate that the trends toward declining ACT test scores apply to both males and females, though the magnitude of the decline for females in most cases exceeds that observed for males.

Trends in ACT Scores as a Function of Racial/Ethnic Background

The same samples of enrolled black students referred to in the previous section on trends in HSA were used to examine the ACT test scores of black students. The average composite score for the 10% samples of black students taking the ACT Assessment and enrolling in college in the years 1970-71 and 1973-74 were 14.3 and 13.0, respectively. The decrease in mean composite scores was accompanied by a .1 decrease in the standard deviation of the scores.

National data including a 10% sample of all students who took the ACT and then enrolled in college are reported at the bottom of Table 6. They reveal that from 1969-70 to 1972-73, there was no decline in ACT scores for those students. A possible explanation for this difference between the national samples of enrolled students is the recent lowering of barriers to college admission for black students. It is possible, for example, that as more and more black students have applied to and enrolled in college, the available pool of black students with high ACT test scores (those who have traditionally had less difficulty gaining entrance to college) has diminished and the number of black students with lower ACT test scores admitted to college has increased. The net result of these events could account for the decrease in the mean composite score for black students over the three-year period reported.

Trends in ACT Scores as a Function of Type of Institution

To determine whether the decline in test scores of college-bound students was a trend observed at all levels and types of institutions, test score data were collected on the eight colleges and universities discussed earlier, a cross-section of colleges which include the four types of institutions. Specifically, the means and standard deviations of the ACT test scores of students applying to the eight colleges and universities were determined for three years--1966-67, 1969-70, and 1972-73. The resulting statistics were grouped by type of institution and reported in Table 5. In general, the trend to a decline in the mean

of ACT test scores appears to be observable across all types of institutions. Moreover, all types of institutions appear to be experiencing greater diversity in the academic abilities of students applying for admission as evidenced by the increase in the standard deviations of scores from 1966-67 to 1972-73.

Trends in the ACT Test Scores of Enrolled Students

The preceding discussion focused on college-bound students whereas the next part reports trends in the ACT test scores of enrolled students, those students who were actually admitted to college. It is important to consider the two groups independently since a trend toward declining test scores for college-bound students does not mean that enrolled students will show a similar decline. Conversely, a decline in test scores for enrolled students does not mean that college-bound students would necessarily show a similar decline.

No data corresponding to those provided in Table 3 for college-bound students are available for the enrolled students. That is, we are unable to provide a year-by-year summary of national means and standard deviations of enrolled students. Consequently, the data reported in this part are based on the eight representative colleges and universities referred to in the preceding dicussion.

Table 6 shows the distribution of ACT composite test scores for enrolled students at the eight institutions by type of institution. In general, a decline in test scores similar in magnitude to the one observed for college-bound students is also observed for enrolled students. As might be expected, the decline in test scores for enrolled students is accompanied by a significant increase in the standard deviations of the test scores over the six years. Thus, it seems safe to conclude that as the academic abilities of students applying to college and taking the ACT tests has become more diverse, colleges

have responded by selecting students representative of that diversity. Thus, the decline in ACT test scores, may, in part, be attributed to an increase in the number of students with less well developed academic abilities being admitted to college.

Trends in ACT Scores as a Function of Sex

Analysis of the available data reveals no trends unique to either sex. In general, declines in scores occur for both sexes for all tests except natural sciences. Thus, results for the enrolled students are consistent with those observed for college-bound students.

Trends in ACT Scores as a Function of Level of Institution

Referring once again to Table 6, it is apparent that there is a trend towards decline in test scores of first semester enrolled students at all four types of institutions. It seems apropos to hypothesize that in recent years, all types of institutions have, either by choice or out of necessity, been admitting students with lower developed academic abilities than in the past. That is, even those institutions which have traditionally tended to be highly selective of their students have either deliberately or arbitrarily introduced greater diversity into their student bodies. Inspection of the ACT norms at the bottom on Table 6, however, reveals that the ACT composite scores of students who actually finish the first semester of college are relatively constant over the six-year duration of the study.

Trends in First Semester College GPA

The trends in first semester college grade point average (GPA) for the same eight colleges is represented in Table 7. The grade point averages for these schools were reported to ACT through the colleges' participation in the

Basic Research Service.[3] The college grade point reported for this service is for the first semester of the freshman year. The grade point averages for several hundred colleges that have participated in the Standard Research Service for the time period covered by this study are shown at the bottom on the table. The rise in average GPA for the eight schools is even more pronounced than it was for HSA. Over the six-year span the increase in GPA varied from .3 to .9 for the eight colleges. The results for 1966-67 show that the colleges' average was usually at least .2 less than the HSA for students at the same school. By 1972-73, the average college GPA was much closer to the HSA reported by the same students.

Inspection of the ACT national averages at the bottom of Table 7 indicates a similar dramatic rise in college GPA over the past several years. The results are compatible with a recent study by Juola (1974). He suggested that the rise in college GPA in recent years may possibly be a readjustment from the rather harsh grading standards adopted during the "post-sputnik period." He further indicated that the rise in grades parallels the period of active student demonstrations when faculty may have been more conscious of students' views and concerns. Even though no explanation could probably cover every college, the trend toward higher grade point averages is clear.

Trends in the Prediction of College GPA

In spite of the rise in grades at both the high school and college level, the ability to predict college GPA based on the ACT Assessment and self-reported grades has remained rather stable.

The multiple correlation for predicting college GPA based on the ACT Assessment and four self-reported high school grades is reported in Table 8.

[3] The Basic Research Service is one of two predictive research services provided by ACT to participating colleges.

The results are mixed for the eight cross-section colleges. Three schools showed a decline in multiple correlation over the six-year period. On the other hand five of the colleges had the same or a higher multiple correlation for predicting first-year college GPA. At the bottom of the table the national norms for several hundred colleges are reported. The typical multiple correlation has been very stable over the six-year period reported, a period that has witnessed a decline in test scores and a sharp rise in grade point average. It seems that in spite of the variation in grades and test scores, these variables can still be used successfully to provide helpful guidance information to prospective college students.

Summary

Taken together, the data reported in the paper indicate a significant increase in the grades awarded by high school and college faculty at the same time ACT test scores were on the decline. Although there are many alternative hypotheses which could explain these phenomena, in the opinion of the authors, only one seems adequate. We attribute the rise in grade point averages, both at the high school and college level, to an increased leniency in the evaluation of student performance, that is to a lowering of the academic standards, <u>arbitrary as they were</u>, of past years. At the same time, it is our judgment that the decline in ACT test scores is the result of a significant shift in the developed academic abilities of the population of students applying and being admitted to college.

Although we are confident in our rationale for the trends described in the paper, we are less confident in the implications of these trends for shaping policies and practices in postsecondary institutions. On the surface, the decline in ACT test scores and the increased diversity of students taking

the ACT tests suggests the need for colleges to review their educational offerings to determine if they are adequate for their student population. The apparent admission of students with lower levels of developed academic abilities, for example, might imply the need for more low level courses designed to assist students acquire basic skills needed for successful learning in college.

The merit of the previous recommendation would seem to rest, however, on whether or not the "new" students being admitted to college, that is, those with lower ACT test scores who might not have been admitted five or ten years ago, are successfully completing college-level work. We believe that an important question not answered by the data reported in this study has to do with how students successfully completing college today compared with those completing college several years ago. Are these "new" students still in college at the end of the first year or have they fallen victim to educational programs which do not satisfy their special needs?

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TABLE 1

MEAN HSA FOR ENROLLED STUDENTS AT A CROSS SECTION OF COLLEGES USING THE ACT PROGRAM IN 1966-67, 1969-70, OR 1972-73

Type	Institution	1966-67 Mean	1966-67 SD	1969-70 Mean	1969-70 SD	1972-73 Mean	1972-73 SD
I							
	1	2.08 (N=395)	0.57	2.24 (N=491)	0.57	2.36 (N=349)	0.59
	2	2.09 (N=389)	0.59	2.27 (N=369)	0.56	2.49 (N=392)	0.65
II							
	3	2.36 (N=61)	0.58	2.50 (N=104)	0.72	2.69 (N=115)	0.71
	4	2.55 (N=411)	0.67	2.66 (N=404)	0.64	2.77 (N=351)	0.65
	5	2.50 (N=170)	0.60	2.75 (N=197)	0.61	2.80 (N=240)	0.64
III							
	6	2.44 (N=863)	0.56	2.70 (N=440)	0.56	2.70 (N=522)	0.60
	7	2.25 (N=159)	0.67	2.53 (N=140)	0.64	2.75 (N=111)	0.64
IV							
	8	2.78 (N=2415)	0.60	2.85 (N=3244)	0.58	2.88 (N=2988)	0.60
	ACT NORMS	2.59[1]	0.67	2.65[2]	0.68	2.79[3]	0.68

[1]Based on data from 440 colleges that participated in 1964-65, 1965-66, or 1966-67 Standard Research Service.

[2]Based on data from 425 colleges that participated in 1967-68, 1968-69, or 1969-70 Standard Research Service.

[3]Based on data from 395 colleges that participated in 1971-72, 1972-73, or 1973-74 Standard Research Service.

TABLE 2

MEAN HSA BY CONTENT AREA FOR ENROLLED STUDENTS AT A CROSS SECTION OF COLLEGES USING THE ACT PROGRAM IN 1966-67, 1969-70 and 1972-73

Type	Institution	1966-67 E	1966-67 M	1966-67 SS	1966-67 NS	1969-70 E	1969-70 M	1969-70 SS	1969-70 NS	1972-73 E	1972-73 M	1972-73 SS	1972-73 NS
I	1	2.18 (0.77)	1.84 (0.89)	2.29 (0.79)	2.04 (0.82)	2.35 (0.78)	2.03 (0.87)	2.39 (0.78)	2.20 (0.80)	2.60 (0.81)	2.00 (0.96)	2.55 (0.85)	2.24 (0.70)
	2	2.17 (0.79)	1.80 (0.90)	2.29 (0.78)	2.09 (0.86)	2.37 (0.76)	2.02 (0.88)	2.39 (0.73)	2.26 (0.78)	2.68 (0.85)	2.17 (0.92)	2.63 (0.91)	2.42 (0.86)
II	3	2.39 (0.85)	2.16 (0.87)	2.58 (0.75)	2.30 (0.88)	2.61 (0.85)	2.18 (0.96)	2.72 (0.88)	2.53 (0.91)	2.85 (0.86)	2.42 (1.03)	2.80 (0.93)	2.68 (0.88)
	4	2.73 (0.82)	2.37 (0.95)	2.65 (0.84)	2.42 (0.87)	2.88 (0.81)	2.36 (0.90)	2.81 (0.84)	2.58 (0.85)	3.01 (0.77)	2.43 (0.93)	2.92 (0.88)	2.68 (0.83)
	5	2.52 (0.75)	2.41 (0.92)	2.63 (0.82)	2.45 (0.86)	2.84 (0.72)	2.54 (0.95)	2.88 (0.79)	2.75 (0.86)	2.88 (0.75)	2.60 (0.99)	2.91 (0.80)	2.79 (0.87)
III	6	2.60 (0.77)	2.11 (0.87)	2.65 (0.81)	2.41 (0.85)	2.87 (0.80)	2.56 (0.93)	2.93 (0.77)	2.67 (0.81)	2.86 (0.83)	2.42 (0.96)	2.86 (0.80)	2.62 (0.87)
	7	2.49 (0.83)	1.88 (0.94)	2.57 (0.97)	2.04 (0.96)	2.76 (0.87)	2.08 (1.04)	2.84 (0.84)	2.46 (0.91)	2.98 (0.87)	2.33 (1.00)	3.03 (0.77)	2.67 (0.79)
IV	8	2.94 (0.75)	2.48 (0.91)	3.04 (0.79)	2.65 (0.84)	3.03 (0.73)	2.58 (0.90)	3.09 (0.77)	2.73 (0.79)	3.03 (0.74)	2.59 (0.94)	3.09 (0.78)	2.7. (0.83)
ACT Norms		2.70 (0.85)	2.37 (0.97)	2.79 (0.87)	(2.50) (0.90)	2.72 (0.83)	2.36 (0.96)	2.80 (0.85)	2.53 (0.87)	2.94 (0.82)	2.50 (0.98)	2.99 (0.84)	2.71 (0.88)

TABLE 3

MEANS AND STANDARD DEVIATIONS FOR COLLEGE-BOUND STUDENTS
TAKING THE ACT TESTS IN SUCCESSIVE YEARS

Year	English		Mathematics		Social Studies		Natural Science		Composite	
	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.
1964-65	18.7	5.1	19.6	6.6	20.6	6.4	20.4	6.1	19.9	5.2
1965-66	19.1	5.1	19.5	6.7	20.5	6.4	20.5	6.1	20.0	5.2
1966-67	18.5	5.3	18.7	7.0	19.6	6.6	20.1	6.3	19.4	5.4
1967-68	18.1	5.3	18.3	7.3	19.4	6.7	19.8	6.5	19.0	5.5
1968-69	18.4	5.2	19.2	6.9	19.4	6.7	20.0	6.4	19.4	5.3
1969-70	18.1	5.3	19.5	6.7	19.3	6.8	20.5	6.1	19.5	5.3
1970-71	17.7	5.6	18.7	7.2	18.3	7.2	20.2	6.4	18.9	5.6
1971-72	17.6	5.6	18.6	7.3	18.4	7.3	20.3	6.5	18.8	5.7
1972-73	17.8	5.4	18.8	7.2	18.1	7.5	20.5	6.5	18.9	5.8
1973-74	17.6	5.4	18.1	7.5	17.9	7.6	20.6	6.5	18.7	5.8

TABLE 4

MEANS AND STANDARD DEVIATIONS FOR COLLEGE-BOUND FEMALES AND MALES TAKING THE ACT TESTS IN SUCCESSIVE YEARS

School Year	English		Mathematics		Social Studies		Natural Science		Composite	
	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.
					MALES					
1964-65	17.7	5.1	20.9	6.5	20.6	6.4	21.0	6.2	20.2	5.3
1965-66	18.1	5.2	20.7	6.6	20.7	6.5	21.3	6.1	20.3	5.3
1966-67	17.5	5.3	19.7	6.9	19.7	6.7	20.9	6.5	19.6	5.5
1967-68	17.0	5.3	19.3	7.3	19.6	6.7	20.6	6.7	19.2	5.6
1968-69	17.4	5.3	19.9	7.0	19.9	6.7	20.9	6.5	19.7	5.5
1969-70	17.2	5.4	20.4	6.8	19.9	6.8	21.1	6.3	19.8	5.4
1970-71	16.7	5.7	19.7	7.3	18.5	7.3	20.9	6.5	19.1	5.8
1971-72	16.6	5.7	19.6	7.3	18.8	7.3	21.2	6.7	19.2	5.8
1972-73	17.0	5.5	19.9	7.3	18.7	7.5	21.5	6.7	19.4	5.9
1973-74	16.8	5.4	19.4	7.5	18.7	7.7	21.9	6.6	19.3	5.9
					FEMALES					
1964-65	19.9	4.8	18.0	6.4	20.6	6.3	19.7	5.9	19.7	5.1
1965-66	20.3	4.8	18.1	6.6	20.3	6.4	19.6	5.9	19.7	5.1
1966-67	19.7	4.9	17.5	6.8	19.5	6.5	19.1	6.0	19.1	5.2
1967-68	19.5	5.0	17.2	7.1	19.1	6.6	18.8	6.1	18.8	5.3
1968-69	19.5	4.9	18.3	6.7	18.9	6.6	19.0	6.1	19.0	5.2
1969-70	19.2	5.1	18.5	6.5	18.6	6.7	19.7	5.8	19.1	5.1
1970-71	18.8	5.4	17.7	6.9	18.1	7.1	19.5	6.1	18.7	5.5
1971-72	18.5	5.4	17.6	7.1	18.0	7.3	19.4	6.3	18.5	5.6
1972-73	18.6	5.3	17.8	7.0	17.5	7.5	19.7	6.2	18.5	5.6
1973-74	18.4	5.2	16.9	7.2	17.1	7.5	19.4	6.1	18.1	5.6

TABLE 5

MEAN ACT ASSESSMENT COMPOSITE TEST SCORES OF NONENROLLED STUDENTS APPLYING TO A CROSS SECTION OF COLLEGES USING THE ACT PROGRAM IN 1966-67, 1969-70, OR 1972-73

Type	Institution	1966-67 Mean	1966-67 S.D.	1969-70 Mean	1969-70 S.D.	1972-73 Mean	1972-73 S.D.
I	1	19.8 (N=660)	4.7	19.5 (N=510)	4.7	18.7 (N=593)	5.1
	2	19.1 (N=449)	4.6	19.3 (N=426)	4.6	18.0 (N=700)	4.9
II	3	20.1 (N=157)	4.9	19.6 (N=307)	5.1	20.0 (N=308)	5.6
	4	19.6 (N=435)	5.1	19.8 (N=390)	4.9	19.4 (N=390)	5.2
	5	21.9 (N=625)	4.7	21.4 (N=462)	4.7	20.7 (N=515)	5.2
III	6	18.2 (N=2214)	5.2	18.6 (N=1437)	5.2	17.4 (N=928)	5.9
	7	18.7 (N=4186)	4.7	19.1 (N=3290)	4.4	18.6 (N=3044)	4.9
IV	8	21.3 (N=9324)	4.5	21.0 (N=9160)	4.5	Not Available	

TABLE 6

MEAN ACT ASSESSMENT COMPOSITE TEST SCORES OF STUDENTS ENROLLED IN A CROSS SECTION OF COLLEGES USING THE ACT PROGRAM IN 1966-67, 1969-70, OR 1972-73

Type	Institution	1966-67 Mean	1966-67 S.D.	1969-70 Mean	1969-70 S.D.	1972-73 Mean	1972-73 S.D.
I	1	20.0 (N=417)	4.1	19.3 (N=396)	4.6	19.2 (N=434)	4.9
	2	18.3 (N=395)	4.4	18.5 (N=529)	4.4	17.5 (N=396)	5.0
II	3	19.9 (N=68)	4.4	19.7 (N=110)	5.5	19.7 (N=122)	5.8
	4	20.1 (N=423)	4.7	19.9 (N=413)	4.9	19.5 (N=378)	4.3
	5	22.9 (N=170)	4.1	23.4 (N=198)	3.9	23.2 (N=247)	4.8
III	6	21.6 (N=163)	3.2	21.7 (N=151)	3.7	21.4 (N=122)	5.2
	7	20.4 (N=863)	3.2	22.6 (N=450)	3.5	20.0 (N=564)	5.2
IV	8	22.4 (N=2448)	3.7	22.4 (N=3307)	4.0	21.3 (N=3294)	4.5
	ACT Norms	20.3[1]	4.8	20.0[2]	5.0	20.1[3]	5.3

[1]Based on data from 440 colleges that participated in 1964-65, 1965-66, or 1966-67 Standard Research Service.

[2]Based on data from 425 colleges that participated in 1967-68, 1968-69, or 1969-70 Standard Research Service.

[3]Based on data from 424 colleges that participated in 1970-71, 1972-73, or 1973-74 Standard Research Service.

TABLE 7

MEAN COLLEGE GPA FOR STUDENTS WHO COMPLETED THE FIRST SEMESTER OF COLLEGE AT A CROSS SECTION OF EIGHT COLLEGES USING THE ACT PROGRAM IN 1966-67, 1969-70, OR 1972-73

Type	Institution	1966-67 Mean	1966-67 S.D.	1969-70 Mean	1969-70 S.D.	1972-73 Mean	1972-73 S.D.
I							
	1	2.06	0.73	2.15	0.79	2.35	0.84
	2	1.79	0.86	2.10	0.82	2.45	0.72
II							
	3	2.03	0.88	2.33	0.87	2.55	0.81
	4	2.31	0.73	2.36	0.71	2.60	0.77
	5	2.20	0.80	2.20	0.80	2.57	0.75
III							
	6	2.26	0.73	2.49	0.67	2.62	0.67
	7	1.97	0.86	2.14	1.00	2.85	0.84
IV							
	8	2.22	0.68	2.22	0.72	2.46	0.76
	ACT NORMS	2.09[1]	0.82	2.20[2]	0.84	2.46[3]	0.84

[1]Based on data from 440 colleges that participated in 1964-65, 1965-66, or 1966-67 Standard Research Service.

[2]Based on data from 425 colleges that participated in 1967-68, 1968-69, or 1969-70 Standard Research Service.

[3]Based on data from 395 colleges that participated in 1971-72, 1972-73, or 1973-74 Standard Research Service.

TABLE 8

MULTIPLE CORRELATION FOR PREDICTING FIRST SEMESTER COLLEGE GPA FOR STUDENTS WHO COMPLETED THE FIRST SEMESTER OF COLLEGE AT A CROSS SECTION OF COLLEGES USING THE ACT PROGRAM IN 1966-67, 1969-70, OR 1972-73

Type	Institution	1966-67 R	1969-70 R	1972-73 R
I	1	.50	.59	.44
	2	.52	.54	.51
II				
	3	.36	.57	.70
	4	.61	.65	.69
	5	.57	.44	.57
III				
	6	.43	.47	.46
	7	.41	.53	.49
IV				
	8	.64	.56	.59
	ACT NORMS			
	75th Percentile	.66[1]	.64[2]	.64[3]
	50th Percentile	.60	.58	.58
	25th Percentile	.54	.50	.50

[1]Based on data from 440 colleges that participated in 1964-65, 1965-66, or 1966-67 Standard Research Service.

[2]Based on data from 425 colleges that participated in 1967-68, 1968-69, or 1969-70 Standard Research Service.

[3]Based on data from 395 colleges that participated in 1971-72, 1972-73, or 1973-74 Standard Research Service.